

Chapter 23

FORENSIC CASE STUDY

HOMICIDE: “WE HAVE THE WITNESSES BUT NO BODY”

THE PREVIOUS 22 CHAPTERS HAVE OUTLINED the basics of human osteology. Our focus has been on the use of skeletal remains in forensic, archaeological, and paleontological contexts. The remainder of the book is devoted to presenting case studies selected to show the great excitement and breadth of studies that share the foundation of human osteology.

Human osteologists routinely assist law-enforcement agencies, coroners, and medical examiners by identifying skeletal remains. The remains themselves are recovered from a variety of contexts, including aircraft crash sites, makeshift graves, and open fields. When skeletal material is found, the primary forensic concerns usually initially involve the age, sex, stature, and ancestry of the individuals in question and often require positive identifications. This case study provides an example of a difficult but successful investigation in forensic osteology — an investigation that led to the arrest, confession, and conviction of a murderer.

Many investigations in forensic human osteology involve fairly straightforward matches between the unknown remains and missing individuals. Where the evidence is complete, positive identification is usually easily obtained, even by investigators not trained in osteology. In the case of more fragmentary remains, however, this work of identification becomes more difficult, and osteologists may be in the unique position of performing the identification. Owsley et al. (1993) discuss their forensic work in the notorious Jeffrey Dahmer case, in which fragmentation of the victim's remains was intentional. As Rouge and colleagues note (1993), radiographic identification of human remains may often be accomplished by focusing on deformities and anomalies of the postcranial skeleton. Owsley (1993) provides an example of the kind of situation that a forensic osteologist may face in conducting investigations in the developing world by discussing the identification of the remains of two U.S. journalists seven years after their disappearance in Guatemala. Like these, the case study presented below is not typical of forensic osteological investigations because of the extreme circumstances surrounding disposal and identification of the body. However, it illustrates the importance of basic detective work, teamwork, and basic osteological identification — the fundamentals of osteology in any forensic context.

The case presented here, number 191613, is documented by materials on file at the Cuyahoga County Coroner's Office, Cleveland, Ohio. Official reports, print media reports, and photographs in the case file were used to write this chapter. The dates and names of the victim, witness, assailant, and scenes used in this chapter have been changed to protect these individuals.

23.1 A Disappearance in Cleveland

Katie Jones telephoned police to report the disappearance of her older brother Harry in July of 1980. She told police of an argument between her brother and Mr. Charles Cook, aka Chuckie, the owner of Chuckie's Corner, a nightclub in Cleveland, Ohio. Jones and Cook had been feuding for two years, and on this particular Saturday night the argument was over an alleged assault of a woman. Cook insisted that Jones leave his establishment. When Jones left, Cook followed him up Ashland Avenue.

Witnesses last saw Harry Jones being pursued east and north, the pursuer firing several shots at Jones. Because of the argument in the nightclub, Charles Cook became a suspect in the disappearance of Harry Jones. When questioned, suspect Cook admitted to owning a gun but insisted that his gun had been stolen on the night of the disappearance. He denied killing Jones.

23.2 Investigation

Because of the possibility that Jones had been shot, Cleveland homicide detectives were assigned to the case. They quickly learned that Cook had boasted to another witness that he had, indeed, killed Jones, but that no body would be found: "I burned him up and police won't find any evidence." Homicide detective Jon T. Qualey noted: "This is a new one for me. Usually we have a victim and no witnesses. This time we have the witnesses but no body."

On further investigation, the detectives learned that Cook was an assistant supervisor at the Animal Resource Center at the Case Western Reserve University School of Medicine, where his duties included the disposal of research animal carcasses in an incinerator. Following this realization, in the words of detective Qualey, "We put one and one together and we came up with two." Detectives contacted the Cuyahoga County Coroner's office. Members of its staff joined the Cleveland police in a preliminary examination of the contents of the incinerator where animal remains were disposed. Sifting through the incinerator debris, authorities identified what appeared to be human bone fragments. A melted piece of lead about the mass and size of a .38-caliber bullet was found in the debris.

23.3 Inventory

Cleveland Homicide Unit detectives organized a full investigation of the incinerator's remains. The investigation team included the deputy Cuyahoga County Coroner, Dr. Elizabeth Balraj, and Barbara Campbell of the Trace Evidence Department of the Coroner's office. The Cuyahoga County Coroner's office retains a number of consultants who contribute to its investigations as necessary. In this case, consulting anthropologist Dr. C. Owen Lovejoy of Kent State University, consulting dentists Drs. Elizabeth Robinson and James Simmelink, and consulting radiologist Dr. Benjamin Kaufman joined the incinerator investigation team.

The contents of the incinerator were emptied into 25 labeled metal bins. The incinerator was divided into an upper and a lower section, and the contents of these sections were kept separate. The contents removed from the top section of the incinerator had a total capacity of 40 gallons and weighed 60 kg. The bottom section had a 55-gallon capacity of contents weighing 75 kg. The contents comprised fragments of cremated skeletal remains, ash, masses of synthetic material, and metal and wire mesh (Figure 23.1).

Contents of each of the 25 metal bins were sifted through a fine wire screen. Sorting the human from nonhuman remains was the task of the consultant in anthropology, Dr. Lovejoy. All skeletal remains that were diagnostically human were set aside for further analysis. All skeletal remains that were diagnostically nonhuman were separated, photographed, and stored. Amal-



Figure 23.1 Bags of bone fragments. Recovered from the incinerator at the Animal Resource Center at Case Western Reserve University.

gam, ash, and all metal pieces were separated from the debris.

The human remains were extremely fragmentary, all of the specimens being brittle, grayish-white, and showing excessive shrinkage and exfoliation consistent with their exposure to high temperature. The incinerator was normally heated to between 1400 and 2000° F, hotter than normal incinerators but not as hot as a crematorium, which runs at 2300°. The skeleton had suffered greatly due to the incineration, but fragments of many body parts remained and were available for further analysis. Figure 23.2 illustrates the condition of the human skeletal parts recovered from the incinerator.

23.4 Identification

Once the 163 diagnostically human bone fragments were separated from the animal bone in the incinerator, the first question for the investigators was how many human individuals were represented by the remains. The second question was about the identity of the individual(s) whose bones were present.

Portions of elements from the entire skeleton were recovered. Mandible ramus, clavicle, scapula, ulna, os coxae, and femur were represented by portions on both right and left sides. Careful comparison of those pieces that were present bilaterally showed antimeric correspondence. Furthermore, no cases of mismatched right and left sides were found among the human remains. Finally, despite the large number of human fragments, no skeletal element was duplicated in the collection. All of these observations made it highly probable that a single human individual was cremated in the incinerator, and that the fragmentary skeletal remains of this individual were subsequently mixed in the incinerator debris with animal remains.

The investigative team then turned to the question of identity. Individuation in this case proceeded along two complementary lines. The first set of questions centered on the standard issues of age, sex, and ancestry of the individual in question. The second major question was whether the remains were those of the missing Harry Jones.

Determination of age, sex, and ancestry was difficult due to the extremely fragmentary nature of the remains. Fortunately, the recovery of a few important areas allowed Dr. Lovejoy to go beyond the determination of “adult.” Several sexually dimorphic portions of the skeleton were available for analysis. These included the femoral head, the right supraorbital region including

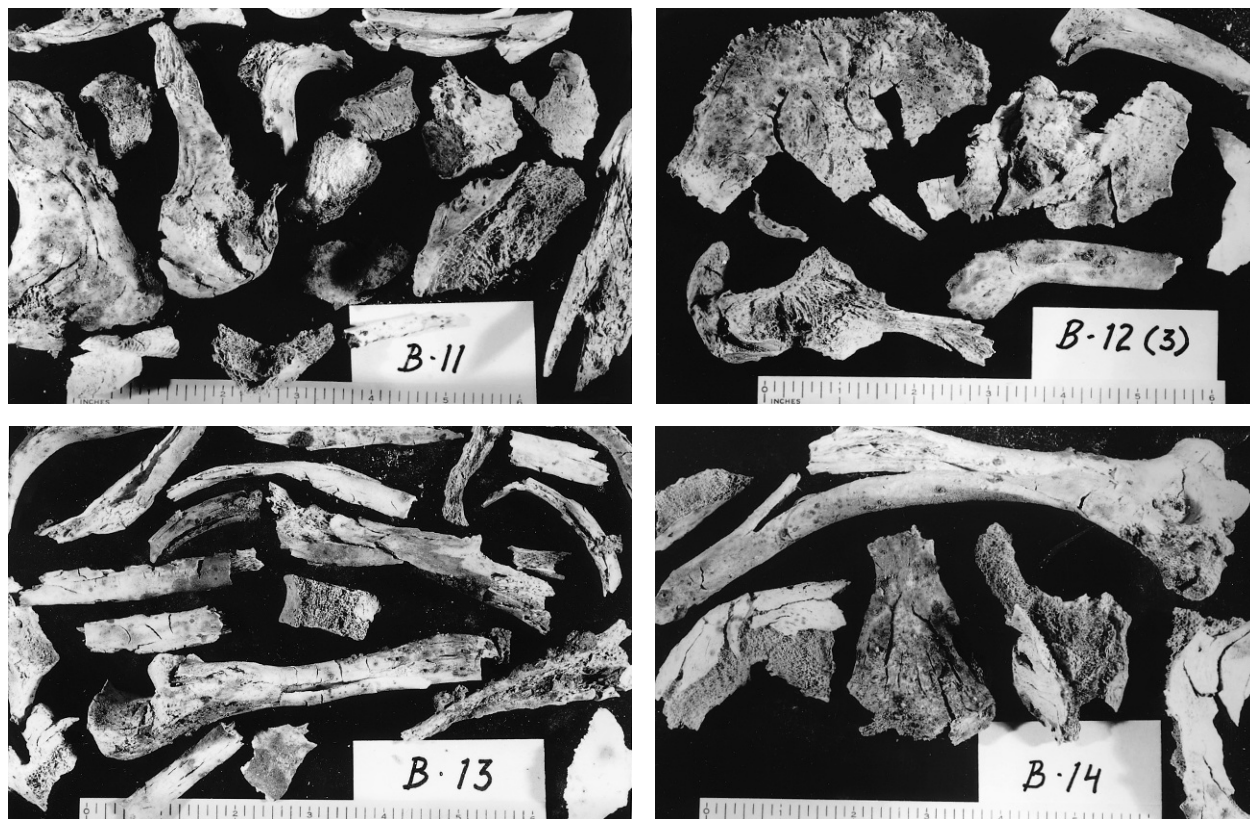


Figure 23.2 Some of the human bone fragments from bins B-11, B-12, B-13, and B-14. Scales are in inches.

the sinus system, the external occipital protuberance of the occipital, and the mastoid of the temporal bone. All of these features indicated to Dr. Lovejoy that the remains were those of a male individual.

A portion of the pubic symphyseal face was preserved. Here, the rampart was obviously complete with no remodeling scars. The surface was granular, with early rim formation. From these traits, Lovejoy concluded that the specimen was in the fourth decade of life. Because two complete auricular surfaces of the bony pelvis were recovered, Dr. Lovejoy was able to make an additional age assessment from this part of the skeleton. The surfaces had uniformly coarse granularity, with no significant macroporosity or microporosity. There were no islands of density and apical activity was moderate. Based on this, an age estimate of 36 (± 5) years was estimated.

Having established that the individual was a male in his late thirties at the time of death, the next step was to see whether the remains belonged to Harry Jones. Harry Jones was 37 years of age when he disappeared, so Lovejoy's age estimates were suggestive but not conclusive.

In many forensic cases, physical anthropologists can work from intact skeletons, or intact parts of skeletons. In such cases, the dentition or the intact cranium can often establish a definite tie with photographs or dental records taken before death. In the analysis of the incinerated remains, however, investigators were faced with the task of somehow matching the small fragments of skeleton they had with knowledge about Harry Jones. No teeth were recovered for the analysis. The challenging task of individuation was accomplished because of some skillful detective work and radiographic analysis.

Because investigators strongly suspected that the remains from the incinerator were those of Harry Jones, they searched for radiographs that had been taken of Jones during his life. Radiographs of Harry Jones had been taken in the 1970s and were available from St. Luke's Hospital,

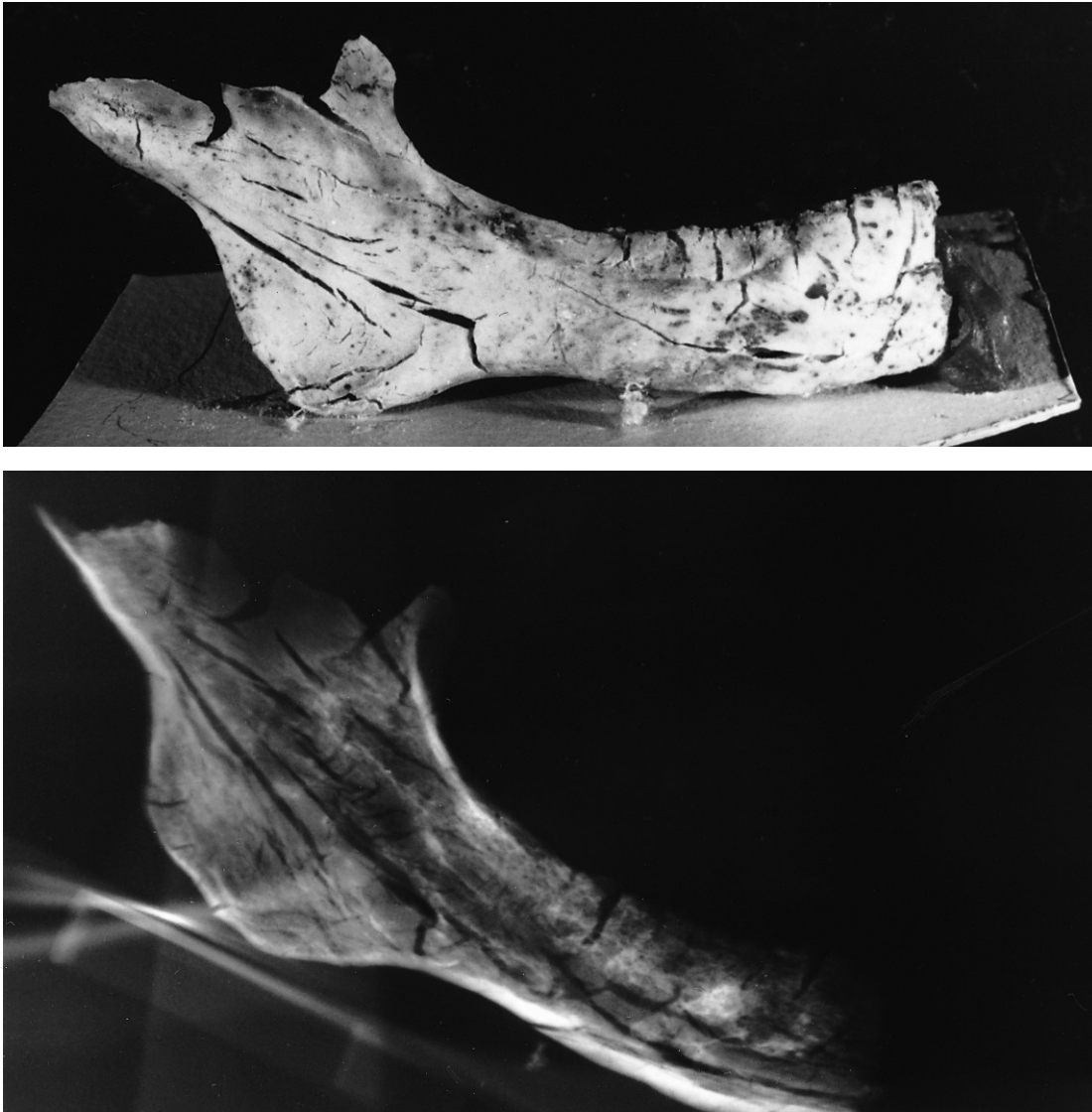


Figure 23.3 Right mandible from bin B-12. *Top*: photograph of the bone; *bottom*: radiograph of the bone. Natural size.

University Hospital, and Cleveland Metropolitan General Hospital.

Drs. Simmelink and Robinson, forensic odontologists, focused on one of the human bone fragments recovered from the ashes of bin B-12. This fragment was most of a right human mandible, including corpus and ramus (Figure 23.3). The 1977 films of Jones showed that he retained some upper and lower teeth at that time, but the 1981 films showed an edentulous Harry Jones. Radiographs of the mandibular specimen recovered from the incinerator were compared to the 1977 and 1981 films of Harry Jones. In addition to the lack of teeth or radiolucent sockets, the investigators discovered a 5-mm diameter “calcified density” in the body of the mandible that matched the antemortem films. Furthermore, several other areas of trabecular bone along the mandibular canal and inferior border of the mandible also matched. Finally, the outline of the mandible from the incinerator matched perfectly with that of Harry Jones’s radiographs (Figure 23.3 and 23.4). In summary, there were no radiographic inconsistencies between the 1981 films of Harry Jones and the 1984 films of the unknown mandible fragment from the incinerator bin.

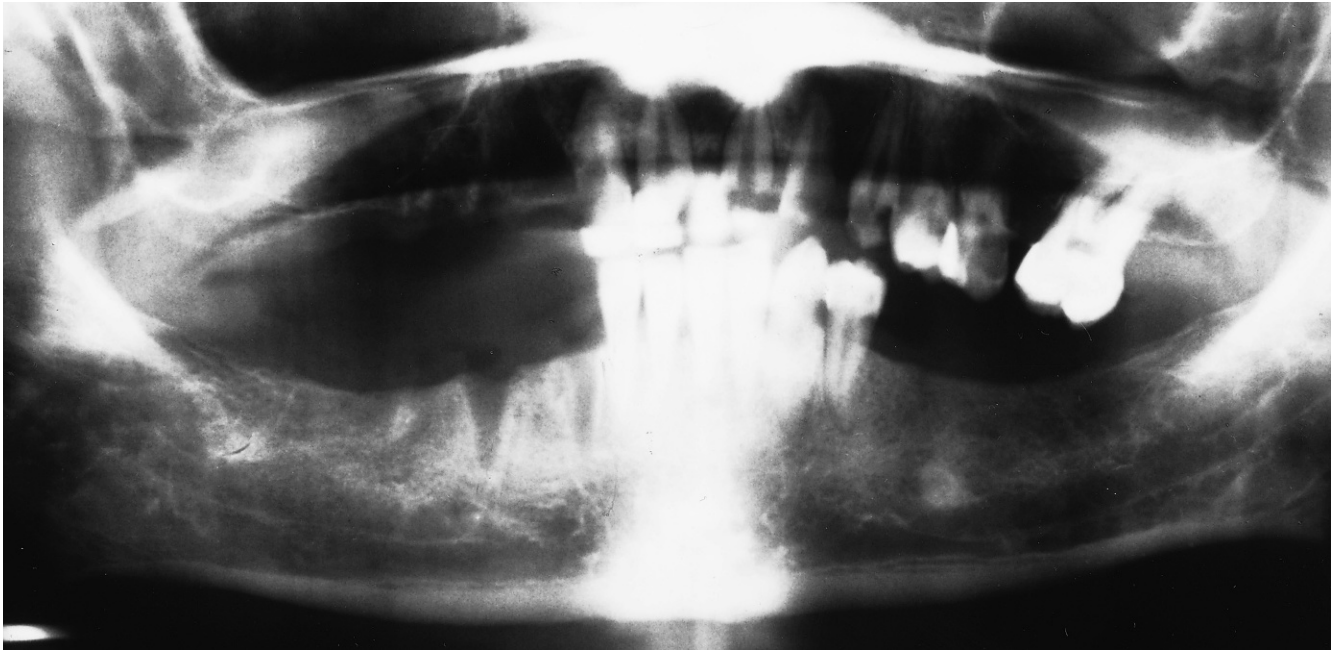


Figure 23.4 Radiographic comparison. A comparison of the radiograph of the mandible found in the incinerator (Figure 23.3) with the radiograph taken of Harry Jones before his death (shown here) revealed a correspondence in the lack of teeth, or radiolucent sockets, in the approximately 5-mm diameter “calcified density” in the body of the mandible, in trabecular bone patterns along the mandibular canal and inferior border of the mandible, and in the outline of the mandible. Aside from the loss of teeth, there are no radiographic inconsistencies between the 1981 films of Harry Jones and the 1984 films of the unknown mandible fragment from the incinerator bin. This provided a positive identification of the deceased.

In the opinion of the consulting forensic odontologists, “this detailed comparison of the right jaw bone indicates positively that (the unknown) right mandibular bone piece is from the skeleton of Harry Jones.”

Dr. Kaufman, the consulting radiologist on the case, concurred with the analysis of the odontologist. He also noted the identity of the condensation (“sclerosis”) of bone in the mandible body, of the bony trabeculations, and of the position and shape of the mental foramen. Furthermore, Dr. Kaufman noted no inconsistency in the appearance of the temporal bone and the vertebrae between the incinerator specimens and Harry Jones’s radiographs. Finally, antemortem radiographic views of Harry Jones’s hands taken in 1979 matched radiographs of the hand bones recovered from the incinerator. Thus, Dr. Kaufman confirmed the finding of the dentists, concluding that the skeletal fragments from the incinerator were from the skeleton of the recently deceased Harry Jones.

23.5 Conclusion

Deputy Coroner Balraj filed her report on the incinerator investigation, concluding that the human skeletal remains found among the cremated animal remains within the incinerator of the Animal Resource Department of the Case Western Reserve University School of Medicine were those of Mr. Harry Jones. A check of the closed-circuit television system that monitors and tapes activity around the clock in the medical school building produced pictures of the suspect, Charles Cook, backing a university truck up to the loading dock and entering the building at 3:10 a.m.

on Sunday morning, about six hours after the quarrel with Harry Jones. The receiving dock was located about 20 feet from the incinerator. Records at the university showed that the suspect, who was scheduled to report to work at 6:00 that morning, had clocked in at 3:15, just after he appeared on the television monitor. He did not, however, sign in at the security guard's desk, as required of anyone entering the building before 6:00 a.m.

Secure in the belief that the body would never be found, Charles Cook at first denied the murder of Harry Jones. When the evidence against him mounted, however, he reversed his position and pleaded guilty to the murder of Harry Jones. He was sentenced to 15 years to life in prison.

This case study was chosen because it effectively illustrates the unique contributions that the osteologist can make in the forensic arena. A knowledge of the basic principles of element identification and siding, and of individuation in human osteology, was the key in the analysis. In some ways, the forensic osteology of the Harry Jones homicide was unusual. The trail to the suspect was a short one, and witnesses were able to assist the detectives in locating the suspect as well as the deceased. The skeletal remains were very fragmentary, but an excellent radiographic history of the victim was available for comparative work. More often, the unknown skeletal remains are more complete, the suspect is not identified, and the possible victims are many. In any forensic situation, however, the keys to success are competent identification of the remains, careful, critical observation of the available clues, and close collaboration with other authorities on the investigation team.